

RABIES SPECIMEN SUBMISSION PROTOCOL
for
THE DIVISION OF CONSOLIDATED LABORATORY SERVICES (DCLS)

GENERAL INFORMATION

DCLS provides laboratory testing support to local, state and federal agencies whose mission includes the prevention and treatment of rabies in animals and humans. The laboratory is responsible for courier service, receiving, processing and testing specimens, and providing accurate and prompt reports of analysis to the submitter. Submitters are responsible for collecting and submitting the appropriate specimens for testing. DCLS will provide results to the local health department or a submitting agency authorized by the district health director. Test results and/or interpretation of those results to an animal owner should be communicated by the local health department.

- Questions regarding specimen submission may be addressed by calling the DCLS Normal Business Hours Telephone at: 804-648-4480 x 270 or 275.
- DCLS offers statewide courier service. Specimens submitted to the local health department courier site are routinely received prior to normal business hours the following day (8:15 A.M.). Contact DCLS Customer Service at 804-648-4480 x 140 for information regarding courier sites.
- Specimens received by 9:00 A.M. (Monday–Saturday) will be tested on the day of delivery. A telephone number must be supplied for after hours or emergency contact for reporting positive results.
- **Emergency testing will require notification from a local or district health director, or their designee. DCLS can be notified of an emergency test request by telephoning the Emergency Pager Number: 804-418-9923.**

SPECIMEN COLLECTION

Specimen collection guidelines may be obtained from the Virginia Department of Health (VDH) District Office. This information is also available on the VDH website at <http://www.vdh.virginia.gov/epidemiology/DEE/Rabies/vgrpc.htm> (Virginia Guidelines for Rabies Prevention and Control).

Specimens will be tested if submitted for the following reasons:

- A. **Significant human or domestic animal exposure from an animal exhibiting behavior of a rabid animal.**
 - **Significant human exposure is defined as a skin-puncturing bite or saliva on a mucous membrane or saliva in a fresh skin penetrating**

wound.

- Any exposure to a bat is considered significant (e.g., direct contact with a bat or a bat is discovered in a room with anyone unable to tell whether exposure took place such as an infant or senile or unconscious adult).
- Domestic animal exposure example: dog, cat, or livestock that has been bitten or may have been bitten by a suspected rabid animal.

B. Recommendation from a Public Health official using guidance found in the “Compendium of Animal Rabies Prevention and Control 2004 National Association of State Public Health Veterinarians, Inc”. This document may be found at the VDH website at: <http://www.vdh.virginia.gov/Epidemiology/DEE/Rabies>

NECROPSY

A live animal will not be accepted by the laboratory.

- The animal should be humanely euthanized without damage to the head.
- The head must be removed from the body and submitted intact for necropsy and examination. Exception: The entire body of small mammals such as bats, mice, squirrels, etc. may be submitted if it meets the testing criteria listed above.
- **Note:** DCLS does not have the ability to necropsy large animal heads such as horses and cows. The Virginia Department of Agricultural and Consumer Services (VDACS) laboratories will necropsy large animals and provide brain tissue to DCLS for testing. Please call DCLS for submission and delivery information to VDACS laboratories at: 804-648-4480 x270 or the emergency pager at 804-418-9923.

SUBMISSION FORM

The submission form **must** be completed in its entirety to ensure proper identification of the animal as well as providing the necessary information for reporting results of testing. Incomplete information on the submission form will delay the laboratory’s ability to report results, and may cause the specimen to be rejected.

SUBMISSION AND PACKAGING

- All material collected for rabies diagnosis are to be considered infectious, and appropriate handling and shipping precautions should be taken in order to ensure the safety of the collector/submitter, transportation carriers, laboratory staff and the public at large in accordance with 49 CFR Department of Transportation Regulations.
- Specimens should be submitted to the laboratory promptly and cold to reduce decomposition of the animals. **Use frozen cold packs only.** Do not use “wet” ice when

shipping specimens. “Wet” ice may leak through the container. A leaking package may result in rejection of the specimen.

- Keep the specimen cold but not frozen. A frozen specimen will delay testing; possibly one full day.
- All specimens should be sprayed or dusted for fleas and ticks with a pesticide prior to packaging.
- When packaging rabies specimens, wear disposable gloves. All diagnostic specimens must be clearly labeled with a health department or animal control internal number or identifier and the animal species. Specimens **must** be triple packaged:

Suggested Materials for Use and Proper Handling

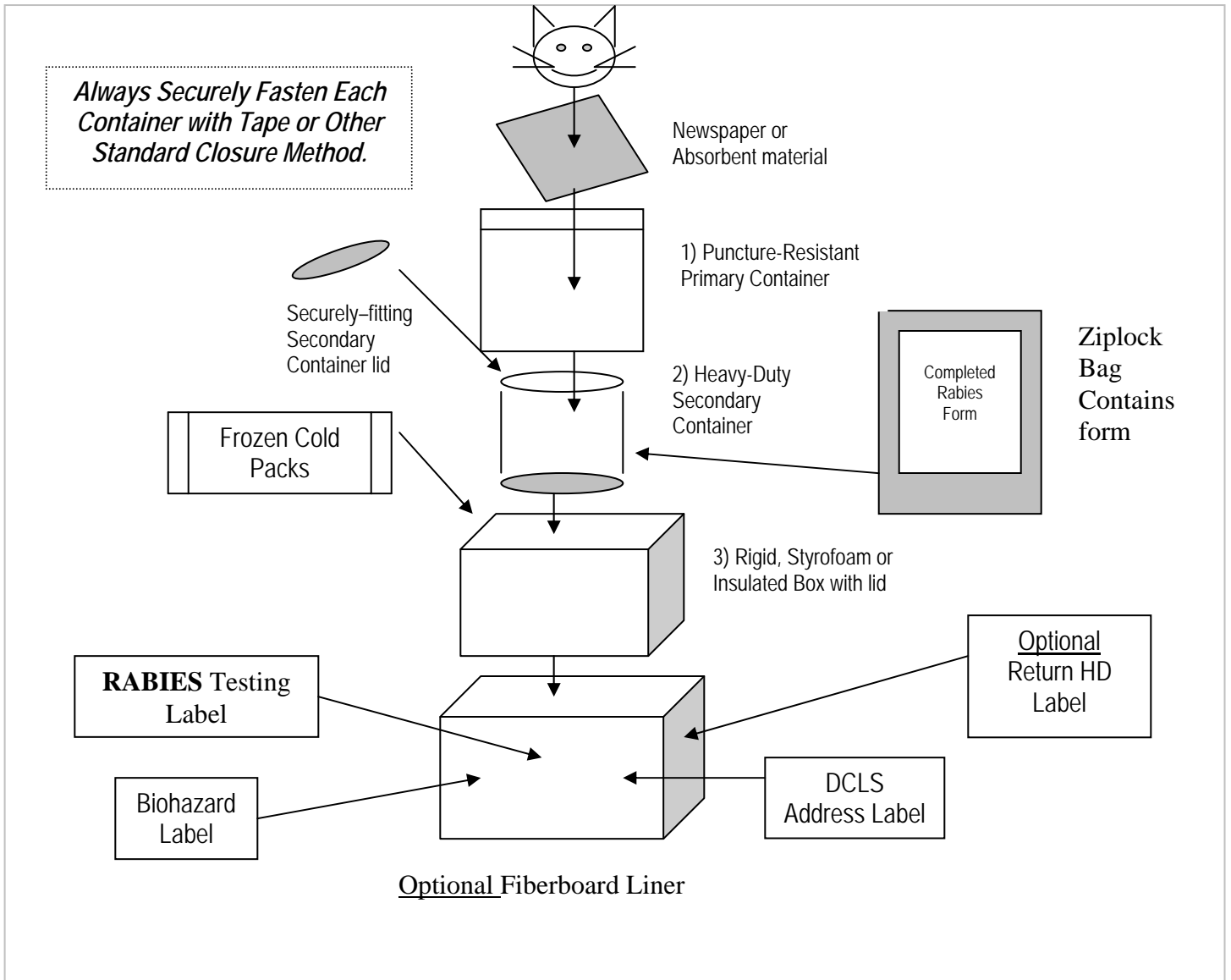
- | | |
|------------------------------|---|
| 1) Primary Container: | Ziplock bags or heavy-duty garbage bags appropriately sized for the specimens with an absorbent material (absorbent pads, paper towels, etc) placed in the bag to prevent blood and body fluid from leaking. If sharp objects protrude from the specimen such as shattered bone, wrap the specimen in several layers of newspaper. Always tightly seal or fasten the primary container to contain the specimen. |
| 2) Secondary Container: | A metal can, heavy plastic pail with a lid or a heavy-duty plastic garbage bag may be used as the secondary container. These must also be sealed to help prevent leakage of blood or body fluid. The Rabies Submission Form <u>must</u> be enclosed in a plastic bag (ziplock) and taped to the outside of the secondary container. |
| 3) Rigid Shipping Container: | DCLS has provided local health departments with coolers labeled “ <i>Rabies</i> ”. If a cooler is not available then a tightly sealed, thick-walled Styrofoam container with or without an exterior fiberboard liner may be used as the shipping container. It should also be clearly labeled “ <i>Rabies</i> ” with permanent marker. The secondary container is placed inside the shipping container along with sufficient frozen cool packs and cushion material to prevent damage to the specimen during transport. |

Note: When shipping more than one specimen in this container, each specimen must be individually bagged and placed in secondary containers along with a separate submission form for each animal attached.

- The outside of the container **should be cleaned with a disinfectant** (Ex. 10 % bleach: 9 parts water and 1 part household bleach). This will reduce risk of exposure of a potentially positive specimen to anyone handling this package.
- Secure the shipping container (snap lid or tape) for transport and address the package.

DCLS Richmond
600 N 5th Street
Richmond, Va. 23219
Attn: Rabies

Diagram of Packaging Instructions



Rabies Testing and Cooperative Programs

This document summarizes the various programs in which the rabies laboratories around the state of Virginia have been asked to participate.

The following studies are cooperative programs in which the Centers for Disease Control and Prevention (CDC) have elicited state laboratories' assistance for target specimen submission:

CDC Salivary Gland Study: Testing laboratories have been requested to submit the brain material and heads, or capits of rabies-diagnosed rodents (i.e. mice, rats, squirrels, chipmunks, nutria, groundhogs, muskrats, etc.), lagomorphs (rabbits, etc.), or other atypical animal species. These specimens may be forwarded to the DCLS. Shipping instructions are available at the end of this document (see page 4.) Each shipment must comply with shipping regulations detailed in IATA 1.5 and 49 CFR Section 1720700 [U.S. Department of Transportation.] Upon arrival at CDC, staff removes the rabid animal's salivary glands in order to detect rabies virus/antigen.

CDC Mammary Gland Study: Diagnostic laboratories which have the facilities to receive and accept intact livestock carcasses are requested to necropsy and forward the mammary glands, milk and brain material of rabies-positive animals (i.e. cows, goats, etc.) to CDC. Ship samples on dry ice after notification to:

**Rabies Laboratory
Attn: Dr. Charles Rupprecht (404) 639-1050
DASH, Bldg. 4, Rm B32
Centers for Disease Control and Prevention
1600 Clifton Road, NE
Atlanta, GA 30333**

Each shipment must comply with shipping regulations detailed in IATA 1.5 and 49 CFR Section 1720700 [U.S. Department of Transportation.] Upon arrival at CDC, staff analyzes samples in order to detect rabies virus/antigen.

CDC/VDH/DCLS Monoclonal Typing of Rabies Variants: DCLS will perform testing to determine the rabies variant of positive specimens and/or the introduction of new or translocated rabies variants into Virginia. All rabies testing laboratories in Virginia must submit rabies positive specimens to DCLS. Rabies-infected brain tissues should be sent as soon as diagnosis is completed. Shipping instructions are available at the end of this document (see page 4.) Each shipment must comply with shipping regulations detailed in IATA 1.5 and 49 CFR Section 1720700 [U.S. Department of Transportation.]

CDC/VDH Animal Pre-exposure Vaccine Failure: Brain tissue from rabies diagnosed animals which also have a current, valid rabies vaccination are forwarded to CDC for further analysis. VDH/Epidemiology should notify laboratories of the existence of these specimens on a case by case basis since the vaccination status of an animal is not always available at the time of collection and/or submission to the laboratory. VDH/Epidemiology will request that tissues be

shipped at that time. For further information, please contact Dr. Cate McManus at VDH/Epidemiology at (804)864-8133.

The programs detailed below involve the coordination of various state diagnostic rabies laboratories, DCLS and the Virginia Department of Agriculture and Consumer Services (VDACS) animal health laboratories and the United States Department of Agriculture.

USDA Bovine Spongiform Encephalopathy (BSE) Surveillance: Tissue from rabies negative cattle are forwarded for BSE testing to the nearest VDACS laboratory (see list below.) The obex, a portion of brain stem, may be collected by trained submitters. Trained submitters are identified as health professionals or laboratorians who have viewed the APHIS, VS BSE surveillance training CD and have been added to the USDA's list of Virginia submitters. Information about collector training and direct surveillance specimen submission may be obtained by phoning the USDA area office at (804)343-2560(workload sent in '05: 38; workload so far in '06: 22). DCLS does not have the ability to necropsy large animal heads such as horses and cows. Brain tissue specimens are shipped in leak proof bags or containers as detailed in IATA 1.5 and 49 CFR Section 1720700 [U.S. Department of Transportation] to the nearest VDACS laboratory Monday thru Thursday. The receiving lab (see list below) should be notified of the impending delivery prior to shipping.

VDACS Scrapie Testing: Rabies-negative brain tissues of sheep and goats received directly from local health departments are forwarded for scrapie testing to the state's regional VDACS laboratories. Tissues must include the brain stem and are packaged in leak proof bags or containers with frozen cold packs. These are shipped in IATA 1.5 and 49 CFR Section 1720700 [U.S. Department of Transportation] packaging to the nearest regional VDACS laboratory lab on a Monday thru Thursday schedule. The receiving lab (see list below) should be notified of the impending delivery prior to shipping.

Division of Animal and Food Industry Services/Office of Laboratory Services:

Harrisonburg Regional Animal Health Laboratory
Director: Dr. David Brown
261 Clinton Pike
Harrisonburg, VA 22802
(Phone: 540-209-9130)

Ivor Regional Animal Health Laboratory
Lab Director: Dr. Barry Dawkins
34591 General Mahone Blvd.
Ivor, VA 23866
(Phone: 757-859-6221)

Lynchburg Regional Animal Health Laboratory
Lab Director: Vacant
4832 Tyreeanna Road

Lynchburg, VA 24504
(Phone: 434-947-2518)

Warrenton Regional Animal Health Laboratory
Lab Director: Dr. Karl Magura
272 Academy Hill Road
Warrenton, VA 20186
(Phone: 540-347-6385)

Wytheville Regional Animal Health Laboratory
Lab Director: Dr. Chris Halsey
250 Cassell Road
Wytheville, VA 24382
(Phone: 276-228-5501)

Arboviral Testing of Rabies Negative Horses: As part of Virginia's Arbovirus Surveillance and Response Plan, the DCLS will perform molecular testing for West Nile Fever and Eastern Equine Encephomyelitis virus infection in horse brains diagnosed as rabies-negative. VDACS and rabies diagnostic laboratories should forward rabies negative brain tissues packaged in leak proof bags or containers with frozen cold packs. (DCLS does not have the ability to necropsy large animal heads such as horses and cows.) Shipping instructions are available at the end of this document (see below.) These are shipped in IATA 1.5 and 49 CFR Section 1720700 [U.S. Department of Transportation] packaging to DCLS on a Monday thru Thursday schedule. DCLS should be notified of the impending delivery prior to shipping by contacting Denise Pettit at (804) 648-4480 ext. 281 (Dee.Pettit@dgs.virginia.gov) or Sean Kelly at (804) 648-4480 ext. 227 (Sean.Kelly@dgs.virginia.gov).

USDA/VDH/DCLS Wildlife Oral Rabies Vaccine Program: DCLS performs testing in support of regional Oral Rabies Vaccine (ORV) programs administrated by USDA and VDH.